



ELECTRICAL CURRENTS

Newsletter from the Office of the Chief Electrical Inspector

Ron Fuller, Chief Electrical Inspector

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● July 21, 2003 Deadline For Making WAC 296-46B Revision Proposals

Industry proposals to WAC 296-46B **must be made electronically** (e.g. compact disc, floppy disk, or as an email attachment) using the form supplied by the department. An electronic fill-in version of the form is available on our website homepage and upon written request to Chief Electrical Inspector (P.O. Box 44460, Olympia, WA, 98504-4460). Until July 21, 2003, proposals may be mailed (i.e. compact/floppy disc) to Chief Electrical Inspector or sending the proposal(s) as an email attachment to electricalwac@lni.wa.gov.

At the May 29, 2003 Technical Advisory Committee (TAC) meeting, all of the primary (and most of the alternate) committee positions were filled. We still need alternates for two journeyman electrician positions and the electrical testing lab position. Interested persons should submit a letter of interest including documentation showing constituency support to the Chief Electrical Inspector.

● Electrical Exam Development Workgroup Representatives Needed

We are assembling an exam development workgroup, comprised of professional educators, subject matter experts, and other individuals representing and supported by electrical industry groups, for the purpose of reviewing all of the new electrical certification examination questions based on the 2002 NEC, chapter 19.28 RCW, and WAC 296-46B. The workgroup will convene sometime in mid August and will require 3-4 full days of intense review. The review will most likely be split into two sessions.

To submit your name for consideration to participate on the exam review workgroup please complete, and fax the Electrical Exam Development Workgroup application to Department of Labor and Industries at (360) 902-5229. Please submit your application by June 30th.

Committee members will be required to sign a non-disclosure statement, and must have completed or do not intend to take any of the exams that they review. Applications are available on our web site at: www.lni.wa.gov/scs/electrical/examdev.pdf.

● August 1, 2003 Deadline-Major Change For Installation Of Feeders

WAC 296-46B-250(1) states *"Effective August 1, 2003, an equipment grounding conductor must be installed with the circuit conductors between buildings and/or structures. A grounded conductor (i.e. neutral) is not permitted to be used in place of a separate equipment grounding conductor between buildings and/or structures."* An equipment grounding conductor must be installed between buildings or structures regardless of the lack of or presence of other metallic systems.

● Clarification of WAC 296-46B-010 (8) Inspection—Siding Before Wiring

In the November 2002 issue of the Electrical Currents, an article was published about the problems surrounding nailing penetrations of wiring and electrical equipment. Recommendations from Building Industry Association of Washington (BIAW) members resulted in new text that now reads: *"Prior to completion of an exterior wall cover inspection, either: (a) The exterior shear panel/sheathing nail inspection must be completed by the building code inspector; or (b) All wiring and device boxes must be a minimum of 63 mm (2 1/2") from the exterior surface of the framing member; or (c) All wiring and device boxes must be protected by a steel plate a minimum of 1.6 mm (1/16") thick and of appropriate width and height installed to cover the area of the wiring or box."*

Since many building inspection authorities do not require a separate shear panel/sheathing nailing inspection, condition (a) above will be met if the building sheathing is applied and nailed. If siding materials are installed per manufacturers' instructions and electrical installers maintain adequate clearances from interior and exterior finished surfaces, cables are not likely to be subject to damage.

● Festoon Or Flat Cable For Indoor Use At Trade Shows

The trade show industry has asked to use flat wire festooning cable as a wiring method for distributing temporary power at trade shows. The use of flat cable under carpet provides a lesser trip hazard than round cord but is not one of the wiring methods recognized in NEC Article 525 or 527. Underwriters Laboratory (U.L.) has developed a new standard, U.L. 2305, for this application of flat cable. An existing U.L. category "XNRW" is in place to cover attachment plugs and cord connectors. The department will allow the use of 4 or 5 conductor flat cable, in sizes #12 and #10 AWG with listed plugs and connectors, for indoor temporary shows.

● WAC 296-46B-905(3)(a) Temporary Service(s)—Fee Error

There is a typographical error in the recently adopted WAC 296-46B. The fee for temporary services and feeders sized from 401 to 600 amperes should be \$94.80 not \$98.80. The printed version of the WAC incorrectly says that fee is \$98.80.

● Weatherproof "Bubble Covers" On Receptacles Outdoors

2002 NEC 406.8(B)(1) states: *"15- and 20 ampere, 125- and 250-volt receptacles installed outdoors in a wet location shall have an enclosure that is weatherproof whether or not an attachment plug cap is inserted."*

This is a substantial change from the 1999 NEC Article 410-57 (b)(2) that read: *"A receptacle installed in a wet location where the product intended to be plugged into it will be attended while in use (e.g., portable tools, etc.) shall have an enclosure that is weatherproof when the attachment plug cap is removed."*

Effective with the adoption of the 2002 NEC (May 23, 2003) all receptacle outlets installed outdoors in a wet location must be weatherproof regardless of whether they are attended or not. This does not affect existing installations previously approved at a jobsite. When temporary power equipment is relocated it must be updated to comply with the new requirements.

● Dangerous Materials Installed In Plenum Spaces

Specific wiring methods are required for all electrical and telecommunications systems installed in plenums used for environmental air. The intent of these costly measures is to prevent the rapid spread of combustion or toxic combustion by-products through environmental air systems. We have been asked to remind contractors and installers that they are defeating the intent of these code requirements if they install the proper listed materials but leave polyethylene (flammable) pull-strings behind for ease of future installation. Though the NEC does not specifically address this issue, mechanical and building codes prohibit these materials in plenum spaces. Our inspectors may not be able to write a specific correction to a contractor based on the standards we enforce, but they are empowered to make referrals to building officials when they encounter this potentially dangerous practice.

● Electrical Question of the Month

This Month's Question: Where single conductor cables comprising each phase or neutral of a circuit are connected in parallel in a cable tray, the conductors shall be installed _____ to prevent current unbalance in the paralleled conductors due to inductive reactance.

A) in groups consisting of not more than three conductors per phase or neutral, **B)** in groups consisting of not more than one conductor per phase or neutral, **C)** as individual conductors securely bound to the cable tray, **D)** in separate groups.

Last Month's Question: Flexible cord used in a listed extension cord set, that is permitted to be supplied by a 20-ampere branch circuit must be constructed of _____ or larger copper wire. **A)** 12 AWG, **B)** 14 AWG, **C)** 16 AWG, **D)** 18 AWG. The answer is: **C)** [2002 NEC 240.5(B)(3)]